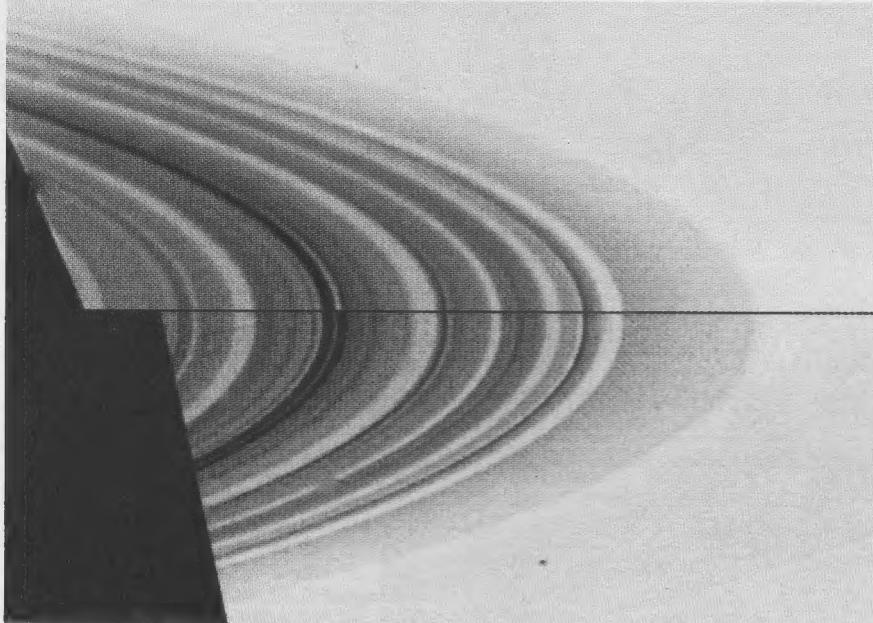


# Voyager Bulletin

MISSION STATUS REPORT NO. 58 NOVEMBER 16, 1980

Voyager 1 11/10/80 3,000,000 km (2,000,000 mi)



**ECCENTRIC RING** — An "out-of-round" or eccentric ring identified in Voyager 1 photos of the C-ring is seen in the dark gap in the center of this high resolution composite photo. The bright ring is narrowed in the lower picture and slightly broadened and displaced within the gap in the upper picture. The horizontal line through the center marks the border between the two photos; at top the trailing ansa of the rings, and bottom the leading ansa.

Voyager 1 11/12/80 177,000 km (110,000 mi)



**A CO-ORBITAL** — A ring shadow crosses the south polar region of Saturn's eleventh moon, a trailing co-orbital satellite. Comparison of the two images, taken 13 minutes apart, reveals a narrow shadow moving across its face. The shadow is probably cast by a small,



narrow ring of Saturn a few thousand kilometers away from the satellite. The pock-marked moon is approximately 135 by 70 kilometers (80 by 40 miles).



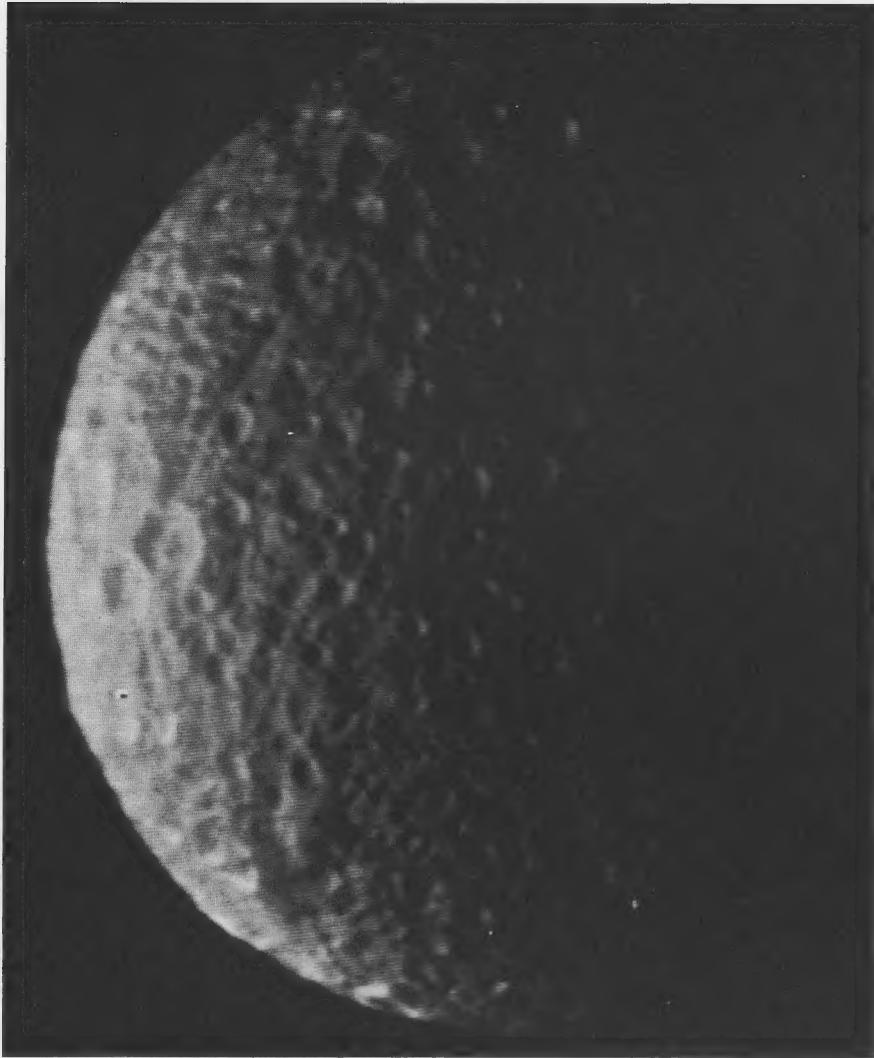
National Aeronautics and Space Administration

Jet Propulsion Laboratory  
California Institute of Technology  
Pasadena, California

Voyager 1: Saturn Plus 4 Days  
Voyager 2: Saturn Plus 282 Days

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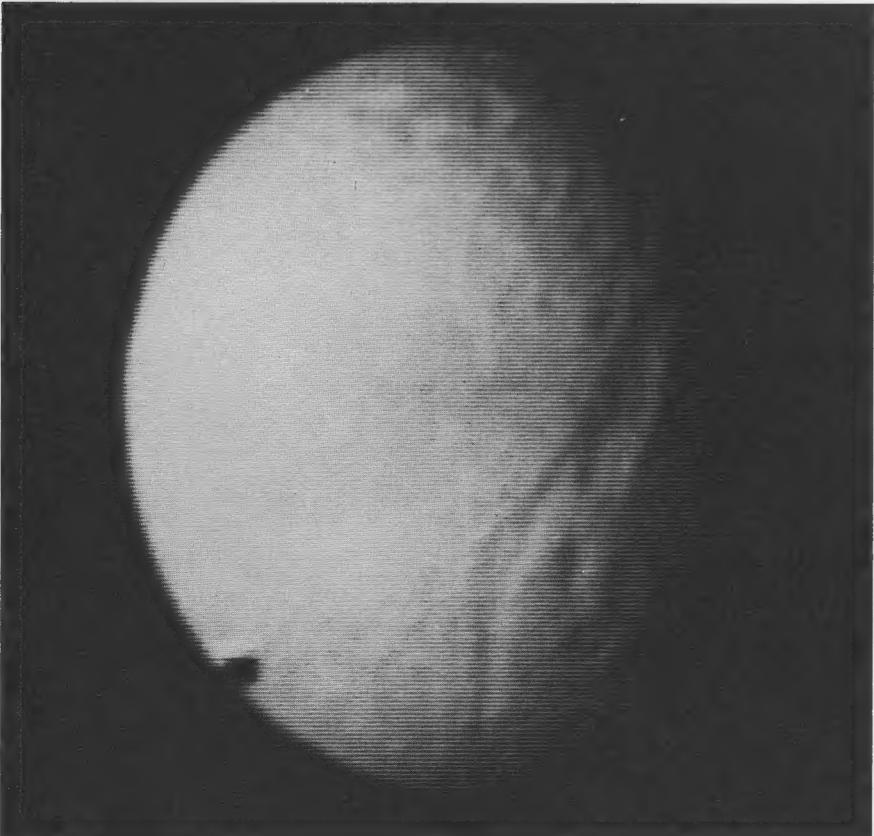
Voyager 1 11/12/80 129,000 km (80,000 mi)



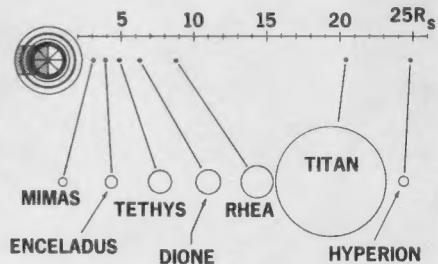
Voyager 1 11/12/80 660,000 km (400,000 mi)

**MIMAS** — On its inbound path, Voyager 1 saw a large impact crater (above) on the leading face of Mimas, at about  $110^{\circ}$  W. longitude. (The dark spot above the crater is a camera reseau.) This structure may give Mimas the largest ratio of satellite diameter to crater diameter in the solar system, for the crater's size — 130 kilometers (80 miles) diameter — is one fourth that of the entire satellite. At left, a closer view of another face of Mimas records a period of heavy meteorite bombardment that occurred some four billion years ago. Craters as small as two kilometers (one mile) across can be seen on the 385-kilometer (240-mile) diameter moon in this photo.

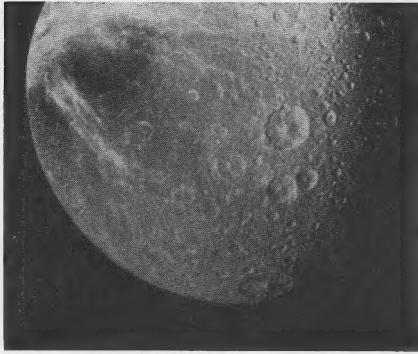
Voyager 1 11/12/80 1,200,000 km (750,000 mi)



#### VIEW FROM SATURN'S NORTH POLE

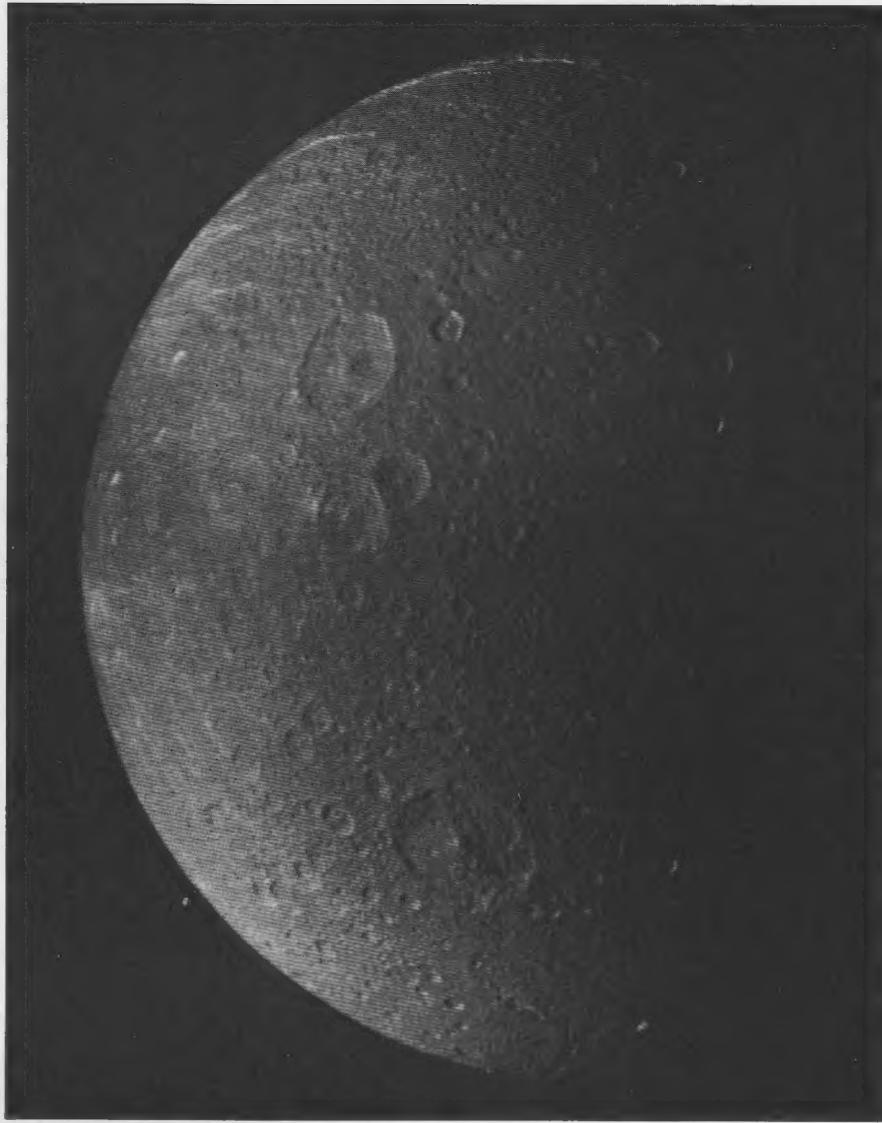


**TETHYS** — The heavily cratered surface of this face of Tethys looks toward Saturn and shows a large valley about 750 kilometers long and 60 kilometers wide (500 by 40 miles). The craters are probably the result of impacts and the valley appears to be a large fracture of unknown origin. Tethys is slightly less than one-third the size of Earth's Moon. The smallest feature visible on this picture is about 24 kilometers across.

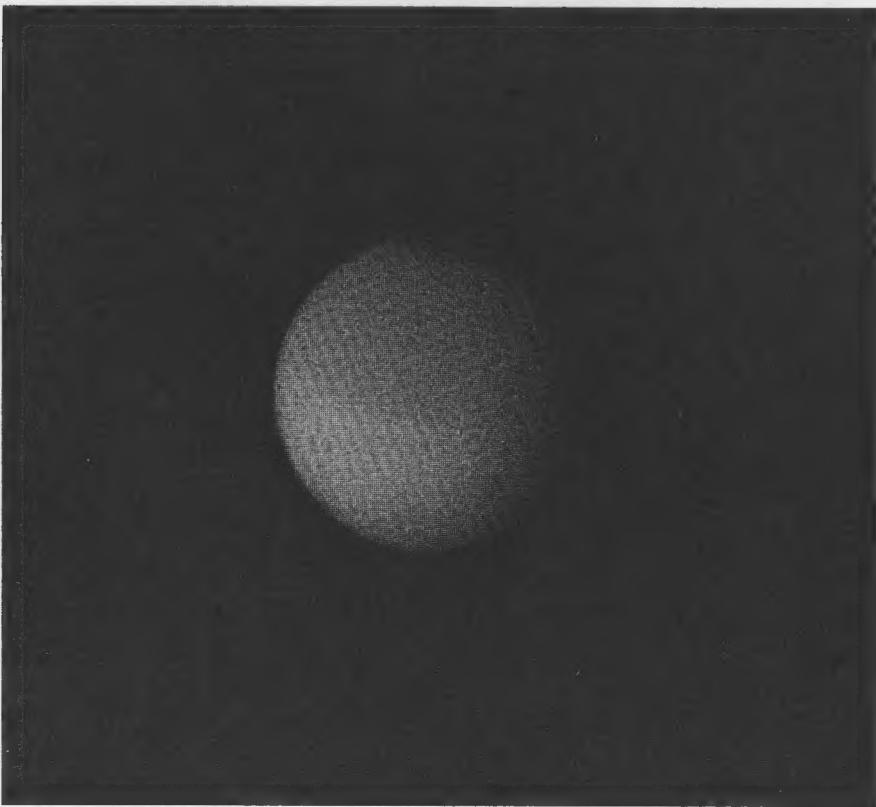


240,000 km (149,000 mi)

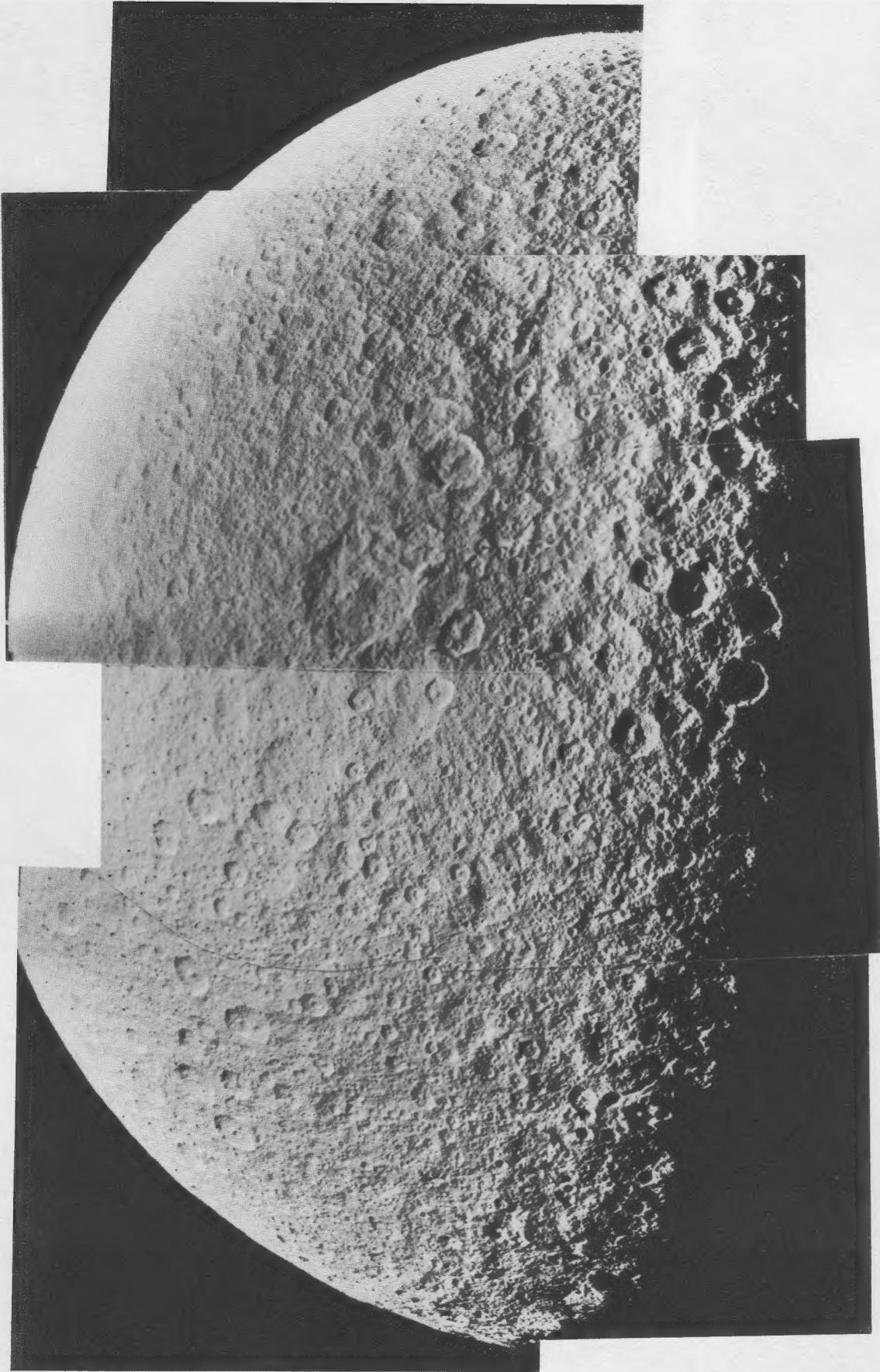
**DIONE** — Circular impact craters up to about 100 kilometers (60 miles) diameter and bright wispy markings delineate the surface of Dione (top). The wispy structures may be surface frost deposits, possibly due to internal geologic activity. The trailing face of Dione (mosaic at right) also shows many impact craters — the record of the collision of cosmic debris. The largest crater is less than 100 kilometers (60 miles) in diameter and shows a well-developed peak. Bright rays represent material ejected from other impact craters, while sinuous valleys probably formed by crustal fractures break the moon's icy crust.



Voyager 1 11/12/80 162,000 km (100,600 mi)



**TITAN HAZE** — A thick atmospheric haze above the cloud level shrouds Titan, Saturn's largest satellite. A dark polar hood, and a darker northern hemisphere are seen in this inbound view. The divisions in the haze occur at altitudes of 200, 375 and 500 kilometers (124, 233 and 310 miles) above the limb of the moon.



**RHEA** — Craters stand shoulder-to-shoulder on the surface of Saturn's satellite Rhea, seen in this mosaic of the highest-resolution pictures of the north polar region of the moon. Rhea is 2,400 kilometers (1,490 miles) in diameter and is the most heavily cratered of the moons of Saturn. The largest crater, made by the impact of cosmic debris, is about 300 kilometers (185 miles) in diameter. Many craters have central peaks formed by the rebound of the floor after the explosive formation of the crater. Multiple ridges and grooves visible near the shadow edge resemble those seen on Earth's Moon and Mercury.